FINDING OF NO SIGNIFICANT IMPACT

INTEGRATED WEED MANAGEMENT PLAN AND ENVIRONMENTAL ASSESSMENT

BADLANDS NATIONAL PARK

AGENCY

Badlands National Park, National Park Service, United States Department of the Interior

BACKGROUND

The National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508); and National Park Service (NPS) Director's Order 12 and Handbook entitled Conservation Planning and Environmental Impact Analysis and Decision-Making direct the NPS to consider the environmental consequences of major proposed actions. The NPS has conducted an environmental assessment (EA) that provides an analysis of the environmental consequences of implementing an integrated weed management program at Badlands National Park, South Dakota.

Badlands National Park's mixed grass prairie ecosystem is one of the largest and finest remnants in the National Park System hosting many species of plants and animals, including some non-native plant species that interfere with park management objectives. The establishment of weeds can displace native species, poison wildlife, degrade critical wildlife habitat, and interfere with visitor enjoyment. Furthermore, weeds originating in the park may invade surrounding lands, thus causing economic hardship for private landowners and interfering with management of other public lands. For the last twenty years, the park has undertaken a number of short-term treatment programs to address specific weed species in specific locations. These sporadic efforts have resulted in inconsistent control and weeds continue to plague the park. The purpose of the plan is to prescribe a long-term integrated weed management program for the park.

The Integrated Weed Management Plan and Environmental Assessment:

1) Describes a comprehensive weed management program that includes prevention, early detection and eradication, treatment of established populations, and restoration.
2) Evaluates weed species based on the invasiveness of the weed species and the feasibility of control using the Alien Plant Ranking System.
3) Analyzes three possible management alternatives
4) Includes an Environmental Assessment, consistent with the National Environmental Policy Act (42 U.S.C. 4321 et.seq.) and NPS policies.

The Alien Plants Ranking System (APRS) was used to analyze plants for integrated weed management at Badlands National Park. APRS is a computer-implemented system to help land managers make difficult decisions concerning invasive nonnative plants. APRS provides an analytical tool to separate the innocuous species from the

invasive ones. APRS not only helps identify those species that currently impact a site, but also those that have a high potential do so in the future as well as the feasibility of control of each species (APRS Implementation Team 2000). Species are scored and divided into four APRS quadrants based on impact and feasibility of control. Forty-two species were analyzed for Badlands National Park. This analysis provides the basis for treatment priority for Alternatives 2 and 3 presented in the Badlands National Park Integrated Weed Management Plan and Environmental Assessment.

This Finding of No Signficant Impact is the decision document that completes the environmental analysis process.

PREFERRED ALTERNATIVE

The agency's preferred alternative is Alternative 3, as presented in the environmental assessment released for public review. This is also the environmentally preferred alternative.

Under this alternative, the Alien Plant Ranking System would be used to prioritize weed management efforts as presented in section III of this plan. A comprehensive management program would include prevention, early detection and eradication, chemical control with aerial application, biological control, mechanical control, cultural treatments (fire), and research.

Prevention would apply to species in all four APRS APRS quadrants with the greatest priority given to those species not yet found in the park; namely, leafy spurge, hoary cress, and Dalmation toadflax.

Early detection and eradication would apply to species in all four APRS quadrants with the highest priority given to those species not yet found in the park: leafy spurge, hoary cress, and Dalmation toadflax and those species found in APRS quadrant 4.

Chemical control would focus on species in APRS quadrants 1, 2, and 4. Species in APRS quadrant 3 would be treated opportunistically when they interfered with a management goal or occurred within the treatment area of a higher priority species. Herbicide application would target those species that have a proven response to chemical treatment, such as thistles and knapweeds. Chemical treatment may also be synchronized with other treatments for integrated control, such as herbicide application following prescribed fire. Herbicides would be applied using all-terrain vehicle (ATV) sprayers, horse-mounted sprayers, backpack sprayers, time-release granulars and aerial application. ATV-mounted boomless sprayers would be used in non-Wilderness areas in approximately 177,500 acres, containing approximately 7,200 acres of weeds. Horse-mounted sprayers and backpack sprayers would be used in Wilderness areas and in high visibility areas such as near visitor centers and campgrounds. In total, horse-mounted and backpack sprayers would be used to apply herbicide in approximately 66,000 acres, containing approximately 2,700 acres of weeds (although 1,500 acres of the 2700 acres may be treated aerially as described below). Time release granulars could be used in approximately 500 acres to treat weeds in areas not accessible to ATV's or horses, and difficult to access on foot with a backpack sprayer. If woody

species such as saltcedar and Russian olive invaded the park and became a management concern, they would be treated using cut-stump methods with an approved herbicide.

Approximately 1,500 acres would potentially be treated with herbicide via aerial application by either helicopter or fixed-wing aircraft. The areas to be treated with aerial application would meet the following criteria: a) weed is a APRS quadrant 1 or 2 species; b) weed population is greater than fifty acres in that area; c) weed population is moderate to high density or scattered with dense patches; d) weed population is located in the Wilderness or other areas that are not accessible to ATV's; and e) weed population is more than one mile from the nearest horse trailer access point. In short, aerial application would only be used to contain and reduce populations that cannot be effectively treated with other chemical application methods. The objective of aerial treatment would be to reduce weed populations to a level that can be maintained through biological controls, mechanical controls, or other chemical application methods. Application rates and procedures would follow label requirements and limitations. Not all areas that meet the criteria would necessarily be treated with aerial application, but it could be used if determined to be necessary to prevent spread of the population and funding could be secured. Once a decision is made to use aerial application to control a population, a pesticide use proposal would be submitted for annual approval or denial.

Three herbicides would be proposed for four year approvals: picloram, glyphosate, and clopyralid. Personnel with Commercial Pesticide Applicators Certifications would apply all herbicides with calibrated equipment. All applications would be consistent with their labels and reported on a pesticide use log. All pesticide use would be compiled and reported according to agency and state requirements at the end of each calendar year. Other herbicides would be considered for experimental or localized use, and those chemicals would be proposed through the annual pesticide use proposal process required by the NPS to evaluate pesticide use in parks.

Counties would continue to be responsible for weed treatments within their road rights-of-way inside of park boundaries. County-applied herbicides would continue to be proposed, evaluated, and approved through the NPS annual pesticide use proposal process.

Biological control would be used for any species for which they are available in order of priority: APRS quadrant 1, 2, 4 and 3. Generally, new populations of biological controls would be established in areas that are inaccessible or poorly accessible for other control methods, such as the interior of the Badlands Wilderness Area. Furthermore, biological controls would only be used on established weed populations that meet the habitat requirements of the insects. Biological controls for Canada thistle have been released in the park since 1996 and those populations would continue to be monitored, augmented, and redistributed. The three species released and managed in the park are *Urophora cardui, Hadroplontus litura,* and *Larinus planus*. Potential exists for additional biological control species to be released for control of Canada thistle and other weeds. Only those species approved by the USDA Animal and Plant Health Inspection Service would be considered for release in the park and only those species that show no affinity for native plant species would be released. Release of biological control agents would be documented and entered in the park's biological control database. Release sites would

be monitored annually by the most practical and reliable means available. Biological control sites would be accessed on foot or horseback.

Mechanical control would be used as a single control measure or integrated with chemical control for optimal effectiveness. Species in all four APRS quadrants would be considered for mechanical treatment as appropriate. Control sites would be accessed on foot, horseback, or ATV, depending on the location of the stand. Mechanical treatment is also effective in setting up plants for chemical treatment. Mowing during bud stage could prevent seeding of thistle species and force plants to form new rosettes for fall herbicide application. Control of saltcedar requires mechanical treatment (saw the tree off) followed by a cut-stump chemical treatment. Access for saltcedar control would be on foot, horseback, or ATV depending on the location of the stand.

Fire would be used as described in preferred alternative of the park's 2003 Draft Fire Management Plan. This action includes the use of prescribed fire for fuel reduction, removal of weeds, and rejuvenation of native prairie with an average of 4000 acres per year planned for implementation over a 15 year period. Prescribed fire for weed control would primarily target cool season exotic grasses, namely smooth brome, Kentucky bluegrass, and crested wheatgrass. In situations where these species occur as a dense, hardy stand, fire may be followed with a herbicide application to further reduce stand vigor and thus reduce the number of years necessary to control the species through burning. Prescribed burns conducted in late summer and early fall can also be used to rejuvenate native prairie, thus making the native prairie more resistant to weed invasions. Use of fire to control weed species would be fully integrated with the park's prescribed fire program and would meet all requirements of the National Fire Plan and related guidance.

Research sponsored by the park would focus on species in APRS quadrants 1 and 4. A primary purpose of this research would be to advance understanding of the ecology of the weed species in order to develop new control strategies. Measuring the effectiveness of new treatments would also be the subject of park-sponsored research and would focus on species in APRS quadrant 4, as these species currently have a limited distribution but are known to be hard to control. Non-park sponsored research could be conducted on any weed species. All research projects would be subject to NPS Research and Collecting permit requirements, reviews, conditions, and reports.

OTHER ALTERNATIVES CONSIDERED

Two other alternatives were considered and analyzed in the Environmental Assessment. Alternative 1 is the no action alternative and represents a continuation of the park's existing weed management program. This alternative includes chemical, biological, and mechanical control but is limited in scope and effect in order to meet the requirements of a categorical exclusion. Alternative 2 is proactive management without aerial application. This alternative includes a comprehensive management program of prevention, early detection and eradication, chemical control, biological control, mechanical control, cultural treatments (fire), and research. Alternative 2 is identical to Alternative 3 except it does not include the option for aerial application of herbicide. Those acres that are identified for aerial treatment under Alternative 3 are treated with horse-mounted

sprayers in Alternative 2, thus the time required for treatment and impacts associated with ground travel and presence in Wilderness is increased.

Two additional alternatives were considered but rejected. An alternative that proposed no weed management effort was rejected because it is inconsistent with Executive Order #13112 on Invasive Species, the Federal Noxious Weed Control Act, National Park Service Policy, and South Dakota law. Another alternative that would propose biological only, chemical only, or mechanical only was rejected because it is inconsistent with National Park Service policy which directs parks to use integrated pest management.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

National Park Service policy requires that an Environmental Assessment identify the environmentally preferred alternative. Simply put, "this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural and natural resources. " Alternative 3 is the environmentally preferred because it provides the most long-term benefits to the environment, minimizes potential impacts to paleontological and archaeological resources from ground travel, and reduces human presence in the Badlands Wilderness Area. Alternative 3 is also the park's preferred alternative.

WHY THE PREFERRED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

The preferred alternative would not have a significant impact on the natural and cultural environment, or the socioeconomic resources of the project area. As defined in 40CFR 1508.27, significance is determined by examining the following ten criteria:

- *Impacts that may be both beneficial and adverse:*

Implementation of Alternative 3 poses no impacts to geologic resources, socio-economics, environmental justice, and park operations. Very temporary, localized, and negligible impacts may occur to air quality, visitor use, and natural sounds. There is a potential for impact to human health and safety through the use of pesticides. This impact is mitigated by the chemical selection process, training of pesticide applicators, use of personal protective equipment, and posting of chemically treated areas.

Implementation of Alternative 3 poses short-term, negligible negative impacts to vegetation resources, wildlife resources, and paleonotological resources. It poses short-term, minor negative impacts to threatened and endangered species. It poses short-term moderate negative impacts to water resources and Wilderness users. Most of these short-term impacts are caused by foot, horse, aircraft use or ATV travel; human presence and the potential for disturbance to other Wilderness users and wildlife; and herbicide drift or run-off to non-target vegetation or surface waters.

Implementation of alternative 3 poses long-term, negligible negative impacts to paleontological resources and long-term, minor negative impacts to archaeological

resources. These potential impacts are caused by the possibility of destroying non-renewable resources during travel via foot, horse, or ATV.

Implementation of alternative 3 presents long-term major positive benefits to vegetation and wildlife due to the protection and restoration of native vegetation by the removal of non-native species. It presents long-term moderate positive impacts to threatened and endangered species through habitat restoration and to Wilderness naturalness. It presents long-term minor positive benefits on ethnographic resources and cultural landscapes by restoring and protecting native prairie species through the removal non-native prairie species.

There are no significant adverse impacts and considerable beneficial impacts with implementation of Alternative 3.

- *Degree of effect on public health or safety:*

The only proposed actions that may effect public health and safety are the use of herbicides and the use of fire. Herbicides proposed for use have very low acute toxicity to humans and areas accessible to the public are posted until the chemical is dry, generally a matter of minutes. Prescribed fire must meet rigid standards designed to protect life and property from flames; however, smoke may cause difficulty breathing for persons with respiratory conditions and low visibility on roadways. To mitigate this health hazard, standard alerts are distributed and pilot cars are used as needed during prescribed fire activities. There were no other public health or safety hazards identified.

- *Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas:*

The preferred alternative does not negatively impact any known historic or cultural resources.

There are no prime farmlands or wild and scenic rivers identified in the vicinity of Badlands National Park.

Possible impacts to wetlands were addressed under impacts to water resources. Stream crossings could potentially increase localized sedimentation in standing or shallow flowing water at the crossing, although Badlands hydrology is characterized by a large amount of suspended sediment, so this localized temporary increase in sedimentation would not be detectable or cause harm to aquatic organisms. Use of glyphosate herbicide with an aquatic label would not pose a risk to aquatic communities or wetland values of stock ponds or other standing water environments.

There are areas of critical habitat for various species of concern, namely prairie dog towns. Many prairie dog towns are invaded by weed species and this appears to reduce prairie dog densities, possibly having a negative impact on the prairie dog dependent reintroduced black-footed ferret. Implementation of the preferred alternative would improve the habitat value of these ecologically important areas.

- *Degree to which effects on the quality of the human environment are likely to be highly controversial:*

There were no highly controversial effects on the quality of the human environment identified during either preparation of the EA or the public review period.

- *Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks:*

Weed management is a routine and necessary task for private and public land managers throughout the United States. The actions proposed in the preferred alternative are standard treatments and methods for an integrated weed management approach. There are no highly uncertain, unique, or unknown risks.

- *Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration:*

The implementation of the preferred alternative neither establishes an NPS precedent for future action with significant effects nor represents a decision in principle about a future consideration.

- *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts:*

Cumulative impacts were determined by combining the impacts of the preferred alternative with other past, present, and reasonably foreseeable future actions. Three related actions were identified: Badlands National Park Fire Management Plan (in draft), General Management Plan (in preparation), and US Forest Service Land and Resource Management Plan for Nebraska National Forest and Associated Units, including Buffalo Gap National Grasslands adjacent to Badlands National Park. Cumulatively, implementation of the preferred alternative of Integrated Weed Management Plan and any or all of the other three actions is expected to enhance native prairie, protection of park resources, enhancement of native prairie and the habitat it provides throughout the region.

- *Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources:*

Badlands National Park has only one resource, an archaeological site, that has been listed on the National Register of Historic Places, although most of the park has not been surveyed. The park has not been inventoried for cultural landscapes. There are various areas of the park that are used for ethnographic purposes by the Oglala Lakota.

The analysis presented in the Environmental Assessment concluded that implementation of the preferred alternative could result in long-term, minor, negative impacts to unsurveyed archaeological resources due to crushing during ATV use and scarring by fire. It would likely have long-term, minor, positive impacts on cultural

landscapes and ethnographic resources due to removal of non-native species and restoration of native prairie landscape.

In compliance with section 106 of the National Historic Preservation Act, the Integrated Weed Management Plan and Environmental Assessment was submitted to South Dakota State Historic Preservation Office (SHPO) on March 13. The cover letter stated that the park recommended a finding on no adverse affect on districts, sites, highways, structures, or objects eligible for or listed on the National Register of Historic Places. No formal response was received; however, they stated in a telephone conversation in April that they didn't have any concerns and would send a letter to that effect. No correspondence has been received and the required 30-day comment period has ended.

- *Degree to which the action may adversely affect an endangered or threatened species or its critical habitat:*

The analysis presented in the Environmental Assessment concluded that implementation of the preferred alternative could result in short-term, minor, negative impacts to threatened and endangered species primarily in the form of harassment due to noise and human intrusion caused by weed operations in home range habitat. It also concluded that there would be long-term, moderate, positive impacts to threatened and endangered species through the reduction of weeds resulting in habitat improvement and increased opportunities for prairie dog expansion, a keystone species for several other species of concern.

Compliance with Section 7 of the Endangered Species Act was completed by submitting a request to the United States Fish and Wildlife Service with a copy of the Environmental Assessment. In a response dated April 4, 2003, the United States Fish and Wildlife Service concurred with our conclusion that the described project will not adversely affect listed species.

- *Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment:*

The preferred alternative violates no federal, state, or local law, including environmental protection laws. It is also consistent with various Tribal ordinances.

The preferred alternative includes limited use of aerial application of herbicide. Responsibility for approval of such use in the National Park Service resides with the Washington Office Integrated Pest Manager (west), Terry Cacek. While such use is subject to pesticide use proposal review and approval on a case-by-case basis and cannot be programmatically approved, Mr. Cacek has approved the aerial application use in concept in a memo dated April 24, 2003.

IMPAIRMENT OF PARK RESOURCES OR VALUES

National Park Service policy requires that management decisions, such as those outlined in this Integrated Weed Management Plan and Environmental Assessment, not impair park resources. The impairment that is prohibited is "an impact that, in the

professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values." The negative impacts discussed in the impact analysis section are the unavoidable result of implementing a weed management program that is necessary to preserve or restore the integrity of the park's prairie resources and the habitat value it provides. The negative impacts are mostly short-term, localized, and moderate or less in intensity. No resources would experience irreparable harm such that their function would be diminished. Consequently, it is determined that implementation of any of the alternatives considered in this Integrated Weed Management Plan and Environmental Assessment would not constitute an impairment to vegetation, wildlife, threatened and endangered species, paleontological resources, water resources, Wilderness, or cultural resources.

PUBLIC INVOLVEMENT

The Integrated Weed Management Plan and Environmental Assessment was made available for public review and comment during a 30-day period ending April 11, 2003. Availability was announced through standard channels, including press releases and posting through the park's website. Copies were mailed directly to various regulatory agencies, Tribal offices, and members of the Badlands Weed Management Area. In total, 45 paper copies were distributed and it is unknown how many people downloaded the file from the park's website.

The document was presented to and discussed at the Badlands Weed Management Area steering committee meeting on March 27th. A letter was submitted by the organization stating support of the preferred alternative. Various private citizens who are involved in the Badlands Weed Management Area also submitted letters of support for the preferred alternative.

Letters of support for the preferred alternative were also received from the following organizations or agencies: Pennington County Weed and Pest Program, South Dakota Department of Agriculture, South Dakota Weed and Pest Commission, South Dakota Stockgrowers Association, and the US Forest Service's Buffalo Gap National Grasslands Wall District.

A public open house was held in the park on March 27, 2003 with eight persons attending.

Written comments were received from seven individuals, all in favor of the park's preferred alternative. Electronic comments were received from three individuals, one in favor of Alternative 3 (the park's preferred alternative), one in favor of Alternative 2, and one in favor of Alternative 1.

Some comments received included recommendations that are beyond the scope of this effort, namely reduction of prairie dog populations and introduction of domestic grazing to control weeds.

the plan and their recommendations were incorporated into the plan before it went to public review, but no formal letters of support or concern were received from the Tribe at any time throughout the entire planning process.

CONCLUSION

The preferred alternative does not constitute an action that normally requires preparation of an environmental impact statement (EIS). The preferred alternative will not have a significant effect on the human environment. Negative environmental impacts that could occur are negligible, minor or moderate in intensity. There are no significant impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Registers of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an EIS is not required for this project and thus will not be prepared.

Recommended:

William R. Supernaugh, Superintendent, Badlands National Park — Date: 10 July 2003

Approved:

Director, Midwest Region — Date: 7/15/03